Imaging Technology for Sun-Solar System Connections

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Component	Observation	Description
Detectors	particle	Low energy solid state particle detectors
	particle	MEMS technology, high speed choppers
	particle	Thin foil – thinner stronger for particle detectors
	particle & photon	Calorimeter detectors – large arrays, small pixels, large count rates. X-ray spectroscopy, can't be windowless
	particle & photon	MCP with low intrinsic noise
	particle & photon	Image intensifiers greater resolution (40 line pairs/mm)
	photon	Active pixel sensors – low power, CMOS technology
	photon	High QE for solar blind FUV detectors
	photon	Multi channel CSA
	particle & photon	Calorimeter detectors – large arrays, small pixels, large count rates. X-ray spectroscopy, can't be windowless
	particle & photon	MCP with low intrinsic noise
	particle & photon	Radiation hardening of parts
	particle	LENA type detector (surface conversion)
Instrument	photon	Ultra-sensitive diffuse EUV spectrometers
	photon	Multiple spectral detectors – VIS/UV hyper-spectral detectors
	photon & particle	Low power DPU
Optics	particle & photon	UV suppression technology
	photon	Diffraction grating – higher performance
	photon	Focusing hard x-ray optics - Nano tubes?
	photon	EUV/UV mirrors – performance
	photon	Adaptive/adjustable optics mirrors
	photon	Light weight optical mirrors (10 - 100 cm)
	photon	Free standing diffraction grating
System	System	Solar Sails
	System	High altitude long duration balloon
	System	Spacecraft location requirements knowledge
	System	Morphing instruments – on command zoom optics/detectors and adjustable wavelength tuning